

Statement of Legal and Factual Basis

1. Introduction

1. Facility Information

Permittee/Facility

Brenco Incorporated
P.O. Box 389
Petersburg, VA 23804

Responsible Official

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Registration No.: 50292
AIRS ID No.: 51-053-0048

2. Source Description

The facility is a manufacturer of tapered roller bearings for the railroad industry and automotive transmission components. Manufacturing of tapered roller bearings includes hot forging, cold forming, heat treating, machining and grinding, seal production, and final assembly. Phosphating lines are used for washing parts to remove metal fines and as surface preparation. Phosphate coated seals are conveyed through a dip tank containing MEK, toluene, carbon black, and a liquid adhesive material. Natural gas is used as the fuel for process heaters in the hot forming, heat treating, and phosphating operations.

3. Compliance History

The facility was an existing source until 1990 when it was issued a minor NSR review permit for a heat treating incinerator. At the request of the facility, the facility's dip tank and combustion operations were also given enforceable limitations at that time. Operation of the incinerator has been discontinued. The facility currently operates under a permit issued February 28, 2001. The deactivation of the incinerator was included as an enforceable condition in this latest permit. The facility reports that they are currently in compliance with all applicable requirements. This is confirmed by the latest inspection, dated 9/98, where the facility was judged to be in compliance at the time of the inspection.

2. Emissions Units

a. Process Equipment

PLANT #1

- one Gleason quench tank rated at 400 lbs/hr (ref. #He1007)
- nine RT pit carburizer furnaces with maximum rated heat input capacities of 1.2 MMBtu/hr each (#Ho1001-Ho1009);
- four reagent gas generators with maximum rated heat input capacities of 0.4 MMBtu/hr each (#Ho1011-Ho1014);
- two roller carburizer & Wash units with maximum rated heat input capacities of 0.8 MMBtu/hr each (#Ho1015-Ho1016);

- one roller hardner with a maximum rated heat input capacity of 0.7 MMBtu/hr (#Ho1017);
- Rotary system #1 with one gleason quench tank (#Ho1019) rated at 650 lbs/hr and two rotary furnaces (#Ho1018, Ho1020) with maximum rated heat input capacities of 1.3 MMBtu/hr each;
- Rotary system #2 with one gleason quench tank (#Ho1022) rated at 650 lbs/hr and two rotary furnaces (#Ho1021, Ho1023) with maximum rated heat input capacities of 1.3 MMBtu/hr each;
- one Rockwell furnace (#Ho1028);
- one Rockwell draw oven (#Ho1030);
- Rotary system #3 with one gleason quench tank (#Ho1032) rated at 650 lbs/hr and two rotary furnaces (#Ho1031, Ho1033) with maximum rated heat input capacities of 1.3 MMBtu/hr each;
- Rotary system #4 with one gleason quench tank (#Ho1034) rated at 650 lbs/hr and two rotary furnaces (#Ho1036, Ho1035) with maximum rated heat input capacities of 1.3 MMBtu/hr each;
- one roller hardner draw with a maximum rated heat input capacity of 0.7 MMBtu/hr (#Ho1042);
- Rotary system #5 with one gleason quench tank (#Ho1046) rated at 650 lbs/hr and two rotary furnaces (#Ho1045, Ho1047) with maximum rated heat input capacities of 1.3 MMBtu/hr each;
- one phosphate line rust proof with a maximum rated heat input capacity of 50,000 Btu/hr (#Po1032);
- one phosphate line dip area with a maximum rated heat input capacity of 2.65 MMBtu/hr (#Po1032); and
- one phosphate line wash area with a maximum rated heat input capacity of 2.65 MMBtu/hr (#Po1032).

PLANT #2

- one muffle furnace with a maximum rated heat input capacity of 450 Btu/hr (#ZJ2003);
- one muffle furnace with a maximum rated heat input capacity of 730 Btu/hr (#ZJ2004); and
- one muffle furnace with a maximum rated heat input capacity of 0.12 MMBtu/hr (#ZJ2006).

PLANT #3

- one batch furnace with a maximum rated heat input capacity of 1000 Btu/hr (#ZJ2005);
- three reagent gas generators with maximum rated heat input capacities of 0.4 MMBtu/hr each (#Ho3001-Ho3003);
- one roller hardner system with a maximum rated heat input capacity of 850 Btu/hr (#Ho3010);
- one RT roller hardner system with a maximum rated heat input capacity of 350 Btu/hr (#Ho3011);
- one double retort with a maximum rated heat input capacity of 3300 Btu/hr (#Ho3012);
- one RT hardner system #1 with a maximum rated heat input capacity of 350 Btu/hr (#Ho3016);
- seven RT pit carburizer furnaces with maximum rated heat input capacities of 1.2 MMBtu/hr each (#Ho3018-Ho3024);

- one RT hardner system #2, washer and draw furnace, with a maximum rated heat input capacity of 350 Btu/hr (#Ho3028);
- one RT hardner system #1, quench press rated at 650 lbs/hr (#Ho3029);
- one RT hardner system #1 with a maximum rated heat input capacity of 1.3 MMBtu/hr (#Ho3030);
- one RT hardner system #2 with a maximum rated heat input capacity of 1.3 MMBtu/hr (#Ho3031);
- one RT hardner system #2, quench press rated at 650 lbs/hr (#Ho3032);
- one furnace with a maximum rated heat input capacity of 1.3 MMBtu/hr (#Ho3140);
- one rotary quench press with a maximum rated heat input capacity of 650 lbs/hr (#Ho3141); and
- one draw system with a maximum rated heat input capacity of 350 Btu/hr (#Ho3142).
- one phoshpate line with a maximum rated heat input capacity of 5.3 MMBtu/hr.

PLANT #4

- one draw furnace line 1003 with a maximum rated heat input capacity of 3.78 MMBtu/hr (Go4005);
- one draw furnace line 631 with a maximum rated heat input capacity of 3.78 MMBtu/hr (Go4006);
- one draw furnace line 41 with a maximum rated heat input capacity of 14.9 MMBtu/hr (Go4015);
- two preheat furnaces with maximum rated heat input capacities of 1.2 MMBtu/hr each (reference number: I);
- two carburizing furnaces with maximum rated heat input capacities of 7.9 MMBtu/hr each (reference number: II);
- two reheat furnaces with maximum rated heat input capacities of 1.8 MMBtu/hr each (reference number: III);
- two tempering furnaces with maximum rated heat input capacities of 0.5 MMBtu/hr each (reference number: IV);
- two hot wash tanks with maximum rated heat input capacities of 0.5 MMBtu/hr each (reference number: V);
- two carburizing furnaces with maximum rated heat input capacities of 3.0 MMBtu/hr each (reference number: VI); and
- two reheat furnaces with maximum rated heat input capacities of 1.0 MMBtu/hr each (reference number: VII).

PLANT #5

- one MEK line rated at 3000 lbs/hr (Gs5012);
- one phosphate line dip area with a maximum rated heat input capacity of 2.65 MMBtu/hr (Gs5016);
- one phosphate line wash area with a maximum rated heat input capacity of 2.65 MMBtu/hr (Gs5016); and
- one phosphate line wash area with a maximum rated heat input capacity of 0.54 MMBtu/hr (Gs5016).

PLANT #6

- two wash tanks with maximum rated heat input capacities of 0.26 MMBtu/hr each (Bs6001, Bs6002); and
- one Mart Washer with a maximum rate heat input capacity of 0.35 MMBtu/hr.

b. Control Equipment:

No air pollution control equipment is operated by the facility.

3. Emissions Inventory

An emission update was received for the year 1998. The actual annual emissions from the facility were 1.2 tons of PM10, 0.1 tons of SO2, 15.8 tons of NOx, and 69.7 tons of VOC. Of the 69.7 tons of VOC emissions, 54.0 tons was MEK.

4. Applicable Requirements

A. Emission Unit Applicable Requirements - all requirements from 2/28/01 NSR permit

4. The approved fuel for the combustion equipment listed in Condition #2 is natural gas. A change in the fuels may require a permit to modify and operate.
(9 VAC 5-80-10 of State Regulations)

5. The combustion equipment listed in Condition #2 shall consume no more than 998.6×10^6 cubic feet of natural gas, calculated monthly as the sum of each consecutive 12 month period.
(9 VAC 5-170-160 of State Regulations)

6. The facility shall consume no more than the following quantities of process chemicals, or their equivalents, each calculated monthly as the sum of each consecutive 12 month period:

| | | |
|---------------------|-------------|----------------|
| Chevron Quench Oil | 28.8 lbs/hr | 252,450 lbs/yr |
| Houghton Quench Oil | 10.9 lbs/hr | 95,606 lbs/yr |

Compliance with the hourly throughput limits above shall be determined on a monthly average basis by dividing the quantity of chemicals used in each month by the facility operating hours for each month.
(9 VAC 5-170-160 of State Regulations)

7. Emissions from the operation of the combustion equipment listed in Condition #2 shall not exceed the limits specified below:

| | | | |
|-----------------------------|------|--------|--------------|
| Total Suspended Particulate | 0.9 | lbs/hr | 3.8 tons/yr |
| PM-10 | 0.9 | lbs/hr | 3.8 tons/yr |
| Sulfur Dioxide | 0.1 | lbs/hr | 0.3 tons/yr |
| Nitrogen Oxides (as NO2) | 11.4 | lbs/hr | 49.9 tons/yr |
| Carbon Monoxide | 9.6 | lbs/hr | 41.9 tons/yr |
| Volatile Organic Compounds | 0.6 | lbs/hr | 2.7 tons/yr |

These numerical limits are derived from the estimated overall emissions and are not intended to be utilized to determine compliance. Compliance shall be determined as stated in Condition #5.

(9 VAC 5-50-260 of State Regulations)

8. Emissions from the quench oil operations shall not exceed the limits specified below:

| | | | |
|----------------------------|-----|--------|--------------|
| Volatile Organic Compounds | 3.6 | lbs/hr | 15.7 tons/yr |
|----------------------------|-----|--------|--------------|

These numerical limits are derived from the estimated overall emissions and are not intended to be utilized to determine compliance. Compliance shall be determined as stated in Condition #6.

(9 VAC 5-50-260 of State Regulations)

11. Visible emissions from the new combustion equipment listed in Condition #2 (reference numbers I-VII) shall not exceed 5 percent opacity. This condition applies at all times except during start-up, shutdown, or malfunction.

(9 VAC 5-170-160 and 9 VAC 5-50-20 of State Regulations)

12. Emissions from the combustion equipment in Condition #2 shall be controlled by proper operation and maintenance of combustion equipment. Operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall maintain records of the required training including a statement of time, place and nature of training provided. The permittee shall have available good written operating procedures and a maintenance schedule for each combustion device listed in Condition #2. These procedures shall be based on the manufacturer's recommendations, at minimum. All records required by this condition shall be kept on site and made available for inspection by the DEQ.

(9 VAC 5-170-160 of State Regulations)

14. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Piedmont Region. These records shall include, but are not limited to:

- a. monthly and annual throughput of natural gas for the combustion equipment listed in Condition #2. The annual throughput shall be calculated monthly as the sum of each consecutive 12 month period.
- b. hourly, monthly and annual throughput of the process chemicals listed in Condition #6. The hourly throughputs shall be calculated as stated in Condition #6, and the annual throughputs shall be calculated monthly as the sum of each consecutive 12 month period.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-50-50 of State Regulations)

B. Generally Applicable Requirements

No generally applicable requirements were identified for this source.

C. State-Only Requirements

The source has not requested a state-only section to the Title V permit.

Therefore, the portions of the sources 2/28/01 NSR permit that are state-only requirements will not appear in the Title V permit. These include the toxic pollutant emission limits of Condition #9 and the throughput limits of Condition #10 which enforce the toxic pollutant emission limits.

D. Future Applicable Requirements

No future applicable requirements were identified for this source.

E. Inapplicable Requirements

Because all of the significant emission units at the source were included in the 2001 NSR permit and meet BACT requirements, there are no Part IV (Chapter 40) standards that apply to any of Brenco's emission units.

F. Obsolete Requirements

Certain conditions of the 2/01 NSR permit for the source are obsolete, no longer serve any meaningful purpose, and are unnecessary for Title V considerations. Condition #13 contains the notification requirements for construction and has been removed since the notifications are one-time requirements and have already been preformed.

Similarly, Condition #3 requires that the pyrolysis oven located at the facility cease operation. Since this a one-time requirement which has already been performed, this condition is obsolete and will not be retained in the Title V permit.

Condition #15 is being left out of the Title V permit because the condition defines the causes for modification or revocation of an NSR permit which can be considered extraneous to the Title V permit. The assumption underlying this determination is that if an NSR permit is revoked or modified through unsolicited action by DEQ, the Title V permit will be changed in a separate and independent action from the NSR change. The Title V permit will change to reflect the changes in applicable requirements brought about by the NSR change.

Condition #16 is not being included as an applicable requirement in the Title V permit because it is out-dated. The Part 70 regulations define specific inspection and entry requirements consistent with the issuance of a TITLE V permit. These requirements are described in Condition M in the General Permit Condition Section of the Title V permit and are at least as stringent as the NSR requirements. Inclusion of this condition would be redundant and the requirements have been overtaken by the Title V (Part 70) regulations.

Condition #17 is not being included as an applicable requirement in the Title V permit because it is included in the Condition B in the General Permit Condition Section of the Title V permit and is included as part of the malfunction reporting requirements for the overall permit. Including this condition as a separate enforceable condition on the permitted equipment in addition to the entire listing of equipment covered by the TITLE V permit creates a situation where conditions are both redundant and confusing.

Condition #18 is not being included as an applicable requirement in the Title V permit because the condition, which voids the permit if modification is not commenced within 18 months, is obsolete and environmentally insignificant. These determinations are consistent

with the conditions set down in the White Paper dated July 10, 1995 because the modification outlined in both these permits has already been accomplished.

Condition #19 is not being included as an applicable requirement in the Title V permit because it is redundant. Condition Q in the General Permit Condition Section of the Title V permit describes the requirements for transfer of ownership relative to the Title V permit. The transfer of ownership requirements for the NSR permit are therefore inappropriate for inclusion in the Title V permit.

G. Streamlining of Requirements

No streamlining of requirements was feasible at this source.

5. Standard Terms and Conditions

a. Facility Wide Conditions and Permit Terms

New Source Standard for visible emissions - The new source opacity limit (20% opacity) is applied to each of Brenco's emission units except for the equipment in Plant 4 with reference numbers I-VII. The 2/01 permit includes a more stringent opacity standard (5%) for these units as BACT. The other emission units at the site had no specific opacity standard prior to the 2/01 permit, and since they were not modified as part of that permit, no specific opacity standard was made applicable to them. Therefore, these units are subject to the new and modified source standard.

b. General Permit Conditions

- A. Federal Enforceability
- B. Permit Expiration
- C. Recordkeeping and Reporting
- D. Annual Compliance Certification
- E. Permit Deviation Reporting
- F. Failure/Malfunction Reporting
- G. Severability
- H. Duty to Comply
- I. Need to Halt Reduce Activity Not a Defense
- J. Permit Action for Cause
- K. Property Rights
- L. Duty to Submit Information
- M. Duty to Pay Permit Fees
- N. Fugitive Dust Emission Standards
- O. Startup, Shutdown, and Malfunction
- P. Alternative Operating Scenarios
- Q. Inspection and Entry Requirements
- R. Reopening for Cause
- S. Permit Availability
- T. Transfer of Permits
- U. Malfunction as an Affirmative Defense
- V. Permit Revocation or Termination For Cause
- W. Duty to Supplement or Correct Application
- X. Stratospheric Ozone Protection
- Y. Accidental Release Prevention
- Z. Changes to Permits for Emission Trading

AA. Emissions Trading

6. Periodic Monitoring

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. The following is a list of the applicable requirements which require periodic monitoring and the appropriate periodic monitoring for each requirement:

Conditions #4 (all conditions referenced in this section are from the 2/01 permit):

Requires the use of natural gas as fuel the combustion emission units. As the relevant equipment is unable to combust any other fuel, periodic monitoring for this requirement is unnecessary as a reasonable assurance of continuing compliance inherently exists.

Condition #5

This condition limits the annual throughput of natural gas for the combustion emission units. Sufficient periodic monitoring for this requirement already exists in the form of Condition #14 which requires monthly recordkeeping of the natural gas throughput of the combustion emission units. This recordkeeping provision of Condition #14 will be included in the Title V permit.

Condition #6

This condition limits the hourly (determined on a monthly average basis by dividing the quantity of chemicals used in each month by the facility operating hours for each month) and annual throughputs of quench oils used by the facility. Sufficient periodic monitoring for these requirements already exist in the form of Condition #14 which requires hourly and monthly recordkeeping of the quench oil throughputs of the facility. These recordkeeping provisions of Condition #14 will be included in the Title V permit.

Condition #7:

This condition contains hourly and annual emission limits for TSP, PM10, SO2, NOx, CO, and VOC from the facility's combustion equipment. The hourly emission limits are based on the combined maximum rated heat input capacity of the facility's combustion equipment and natural gas combustion emission factors while the annual limits are based on the annual natural gas throughput limit from Condition #5 and the aforementioned emission factors. For the hourly limits, therefore, if the combustion equipment are operated at capacity, or below, there should not be a violation of the hourly emission rates. In addition, for the annual limits, as long as the throughput limit of Condition #5 is not violated, there is no possibility that the annual emission limits will be violated. Calculations have been included in Attachment 1 demonstrating the dependence of these hourly and annual emission limits on the total maximum rated heat input capacity of the facility's emission units (hourly) and on Condition #5's natural gas throughput limit (annual). As Condition #5 has its own periodic monitoring, the only additional periodic monitoring necessary for the emission limits of Condition #7 is the requirement for the source to keep records of the emission factors used to generate the emission limits.

Condition #8:

This condition contains hourly and annual emission limits for VOC from the facility's quenching operations. The hourly emission limits are based on the hourly quench oil usage limit contained in Condition #6 and manufacturer supplied quench oil emission factors while the annual limits are based on the annual quench oil usage limit contained in Condition #6 and the aforementioned emission factors. For both the hourly and annual limits, then, if the throughput limits of Condition #6 are complied with, there should not be a violation of the Condition #8's emission limits. Calculations have been included in Attachment 2 demonstrating the dependence of these emission

limits on the throughput limits of Condition #6. As Condition #6 has its own periodic monitoring, the only additional periodic monitoring necessary for the emission limits of Condition #8 is the requirement for the source to keep records of the emission factors used to generate the emission limits.

Condition #11:

This condition contains a BACT opacity limit (5%) for the new combustion equipment permitted in the 2/01 NSR permit. Given the fuel (natural gas) and size (none greater than 15 MMBtu/hr heat input) of these units, there should reasonably be no exceedence of the 5% opacity limit as long as the units are operated and maintained properly. As provisions for proper operation and maintenance of facility's combustion emission units are contained in Condition #12 of the 2/01 NSR permit, no periodic monitoring (in addition to that for Condition #12) is required for Condition #11.

Condition #12:

This condition requires emissions from the facility's combustion emission units to be controlled by proper operation and maintenance, including operator training, written good operating procedures, and maintenance schedules. The condition also requires the source to keep records of training and maintenance. These recordkeeping requirements are sufficient periodic monitoring to give a reasonable assurance of compliance with the requirements of Condition #12 (and by extension Condition #11).

New and Modified Source General Opacity Standard

Visible emissions from fugitive emission points shall not exceed 20% opacity by EPA Method 9, except for startup, shutdown, and malfunction. This standard applies to all of the source's emission units except for the combustion emission units covered by Condition #11 above. The only other source of visible emissions in the facility are the combustion emission units not subject of to Condition #11. Periodic Monitoring for these units, however, will be specified to be the same as that for the Condition #11 combustion emission units, i.e. proper operation and maintenance of the combustion emission units as required by Condition #12.

7. Insignificant Activities -

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

| Emission Unit No. | Emission Unit Description | Citation (9 VAC _) | Pollutant Emitted (5-80-720 B) | Rated Capacity (5-80-720 C) |
|--|---------------------------|--------------------|--------------------------------|-----------------------------|
| Miscellaneous parts washing | Parts washing | 5-80-720 B.2. | VOC | N/A |
| Quality Bearing Service Facility Paint Booth | Paint Spray Booth | 5-80-720 B.2. | VOC | N/A |

At the request of the DEQ, Brenco provided emission information about this support spray booth. Relying on recent guidance by EPA that allows PTE to be estimated based on realistic operating constraints rather than the maximum hourly capacity of a unit operating 8760 hrs/yr, the PTE of this spray both is estimated as follows. Given that the spray booth is a non-automated, "job" unit with an infrequent and irregular

operating schedule, the extrapolation of the source's typical daily paint usage over an entire calendar year is a conservative estimation method. $0.5 \text{ gals/day} * 6.84 \text{ lbs VOC/gal} * 365 \text{ days/yr} / 2000 \text{ lbs/ton} = 0.62 \text{ tons/yr of VOC}$. Since this value is below the 9 VAC 5-80-720 B significance level for VOC (5 tons/yr), the spray booth is considered to be an insignificant emission unit for Title V purposes. Spray booths are used as a specific example in this guidance (attached).

8. Public Participation - The draft permit went to public notice in the Richmond Times-Dispatch on June 17, 2001. This public notice period expired on July 16, 2001. The only comments received were from Mr. Dave Campbell of EPA Region III. Mr. Campbell's comments (attached) are summarized as follows: (1) identify with reference numbers the significant emission units covered in Sections III and IV of the Title V permit and (2) change the format of Condition IV.A.2. to clarify that annual emissions are based on a 12 month rolling average. Both of Mr. Campbell's comments were incorporated in full into the Title V final permit.
9. Confidentiality – No information in the permit application, statement of basis or permit was identified as confidential by the Brenco.

Attachment 1 - Title V Statement of Basis
Emission Calculation Demonstration for Periodic Monitoring
Condition #7 of 2/01 permit
Hourly and annual emissions from the combustion emission units

Combined Combustion Equipment Emissions

- combined maximum rated heat input capacity of 113.7×10^6 Btu/hr; 81 units ranging from 350 Btu/hr to 14.9 MMBtu/hr
- natural gas: 1000 Btu/cf, 0.114 mmcf/hr total; 998.6 mmcf/yr (from Condition #5 of 2/01 NSR permit)

Emission Factors - (natural gas; lb/mmcf)

| | | |
|------|------|-------|
| TSP | 7.6 | AP-42 |
| PM10 | 7.6 | AP-42 |
| SO2 | 0.6 | AP-42 |
| CO | 84.0 | AP-42 |
| VOC | 5.5 | AP-42 |
| NOx | 100 | AP-42 |

| | | |
|------|--------------------------------|--------------|
| TSP | - 0.114 mmcf/hr * 7.6 lb/mmcf | = 0.9 lb/hr |
| PM10 | - 0.114 mmcf/hr * 7.6 lb/mmcf | = 0.9 lb/hr |
| SO2 | - 0.114 mmcf/hr * 0.6 lb/mmcf | = 0.1 lb/hr |
| CO | - 0.114 mmcf/hr * 84.0 lb/mmcf | = 9.6 lb/hr |
| VOC | - 0.114 mmcf/hr * 5.5 lb/mmcf | = 0.6 lb/hr |
| NOx | - 0.114 mmcf/hr * 100 lb/mmcf | = 11.4 lb/hr |

| | | |
|------|--|----------------|
| TSP | - 998.6 mmcf/yr * 7.6 lb/mgal / 2000 lb/ton | = 3.8 tons/yr |
| PM10 | - 998.6 mmcf/yr * 7.6 lb/mgal / 2000 lb/ton | = 3.8 tons/yr |
| SO2 | - 998.6 mmcf/yr * 0.6 lb/mgal / 2000 lb/ton | = 0.3 tons/yr |
| CO | - 998.6 mmcf/yr * 84.0 lb/mgal / 2000 lb/ton | = 41.9 tons/yr |
| VOC | - 998.6 mmcf/yr * 5.5 lb/mgal / 2000 lb/ton | = 2.7 tons/yr |
| NOx | - 998.6 mmcf/yr * 100 lb/mgal / 2000 lb/ton | = 49.9 tons/yr |

Brenco Incorporated
Registration No. 50292
July 2001

Attachment 2 - Title V Statement of Basis
Emission Calculation Demonstration for Periodic Monitoring
Condition #8 of 2/01 permit
Hourly and annual emissions from the quench oil operations

Quench Oil Operations

- two quench oils: Houghton Quench Oil - 13.5% VOC; 95,606 lbs/yr (from BI application)
Chevron Quench Oil - 7.3% VOC; 252,450 lbs/yr (from BI application)
- at 8760 hrs/yr the hourly rates of quench oil usage would be (252,450 lbs/yr/8760 hrs/yr) 28.8 lbs/hr of the Chevron and (95,606 lbs/yr/8760 hrs/yr) 10.9 lbs/hr of the Houghton oils
- VOC - $28.8 \text{ lbs/hr Chevron oil} * 0.073 \text{ lbs VOC emitted/lb Chevron oil} + 10.9 \text{ lbs/hr Houghton oil} * 0.135 \text{ lbs VOC/lb Houghton oil} = 3.6 \text{ lbs/hr}$
- VOC - $(252,450 \text{ lbs/yr Chevron oil} * 0.073 \text{ lbs VOC emitted/lb Chevron oil} + 95,606 \text{ lbs/yr Houghton oil} * 0.135 \text{ lbs VOC/lb Houghton oil}) / 2000 \text{ lbs/ton} = 15.7 \text{ tons/yr}$